

Putting Prevention into Practice

An Evidence-Based Approach

Screening for Latent Tuberculosis Infection in Adults

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► See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/afp/2017/0315/od4.html>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and the supporting documents on the USPSTF website (<http://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/latent-tuberculosis-infection-screening>.

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CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 634. Author disclosure: No relevant financial affiliations.

Case Study

G.R. is a 21-year-old nonpregnant woman who is new to the area and your office. She is applying to graduate school and wants to make sure her vaccinations are up to date. She reports she is doing well and has no concerns.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF) recommendation on screening for latent tuberculosis infection (LTBI), which of the following parts of G.R.'s history would place her at increased risk of LTBI?

- ☐ A. She was born in the United Kingdom and currently lives in a college dormitory with four other students.
- ☐ B. She was born in China and reports receiving a bacille Calmette-Guérin vaccination as a child.
- ☐ C. She lived in a homeless shelter a few years ago.
- ☐ D. G.R.'s history is irrelevant; all adults should be screened for LTBI at least once.

2. You recommend that G.R. be screened for LTBI based on the information you gather. According to the USPSTF, which one of the following statements about screening tests for LTBI is correct?

- ☐ A. The Mantoux tuberculin skin test (TST) requires follow-up in 72 to 96 hours.
- ☐ B. Screening should be performed with TST or an interferon-gamma release assay (IGRA), but not both, in addition to chest radiography.
- ☐ C. Screening with IGRA is indicated only if the patient has received a bacille Calmette-Guérin vaccination.
- ☐ D. Screening should be performed with IGRA or TST, but not both, depending on patient and clinic factors.
- ☐ E. Screening should be performed with IGRA and TST in case the patient does not follow up for results in time.

3. A family medicine resident asks you to clarify when G.R. should be retested. Which one of the following recommendations on screening intervals is accurate?

- ☐ A. Patients with two negative TST results within one year do not need to be tested again.
- ☐ B. Optimal screening frequency depends on specific risk factors, such as reexposure vs. continuous exposure.
- ☐ C. Patients with a negative TST result do not need to be retested.
- ☐ D. Patients should be retested annually if they are considered to be high risk.
- ☐ E. Patients can only be tested with a TST every two years. More frequent testing requires using an IGRA.

Answers appear on the following page.

Answers

1. The correct answers are B and C. The USPSTF recommends screening for LTBI in populations at increased risk.¹ Two high-risk populations include persons born in countries with increased tuberculosis prevalence and persons living in certain high-risk congregate settings (such as homeless shelters). Clinicians should also consult their local or state health departments for more information about populations at risk in their community. The World Health Organization and the Centers for Disease Control and Prevention (CDC) provide updated lists of countries with high prevalence of disease and can be referenced to help identify high-risk populations. Other populations at increased risk of LTBI or progression to active disease include persons who are immunosuppressed or patients taking tumor necrosis factor-alpha inhibitors. However, given that screening in these populations may be considered standard care as part of disease management or indicated prior to the use of certain medications, the USPSTF did not review evidence on screening in these populations. Persons who are contacts of individuals with active tuberculosis, health care workers, and workers in high-risk congregate settings may also be at increased risk of exposure. Because screening in these populations is conducted as part of public health or employee health surveillance, the USPSTF did not review the evidence in these populations.

2. The correct answer is D. Either TST or IGRA, but not both, may be used to screen for LTBI. TST requires that patients return in 48 to 72 hours after administration for

interpretation of the results. Clinicians can use CDC resources for interpretation of skin test results in specific populations. Screening with an IGRA requires obtaining a single venous blood sample, and clinicians should be aware of processing requirements for blood (eight to 30 hours, depending on the test). Testing with IGRAs may be preferable for persons who have received a bacille Calmette–Guérin vaccination or those who may be unlikely to return for TST interpretation.

3. The correct answer is B. The USPSTF found no evidence on the optimal frequency of screening for LTBI.² Screening can range from one-time only for persons at low risk of future tuberculosis exposure to annual screening for those who are at continued risk of exposure. The CDC provides information for clinicians seeking information on surveillance programs for public health tuberculosis programs. The USPSTF determined that more research is needed on how often LTBI screening should be performed in different subpopulations.

The views expressed in this work are those of the authors, and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the U.S. government.

REFERENCES

1. US Preventive Services Task Force. Screening for latent tuberculosis infection in adults: US Preventive Services Task Force recommendation statement. *JAMA*. 2016; 316(9):962-969.
2. Kahwati LC, Feltner C, Halpern M, et al. Primary care screening and treatment for latent tuberculosis infection in adults: evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2016; 316(9):970-983. ■